INPLASY PROTOCOL

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Conflicts of interest:
None declared.

Association Between Serum Adiponectin And Non-alcoholic Fatty Liver Disease

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Review question / Objective: **To evaluate the correlation between serum adiponectin and Non-alcoholic fatty liver disease (NAFLD) based on Spearman and Pearson correlation coefficients.**
Information sources: **Relevant articles from PubMed, Embase, The Cochrane Library, CNKI, Wanfang and VIP were screened.Studies were published between the database was set up and March 23, 2022.**
Main outcome(s): **Data from 3717 participants across 36 studies were included in the meta-analysis. Meta-analysis showed that serum adiponectin was negatively correlated with body mass index, total cholesterol, triglyceride, alanine aminotransferase, fasting blood glucose, waist-to-hip ratio, fasting insulin, and insulin resistance index.There was no correlation with high-density lipoprotein cholesterol, low-density lipoprotein cholesterol and glutamic oxalacetic transaminase.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 12 May 2022 and was last updated on 12 May 2022 (registration number INPLASY202250080).

INTRODUCTION

Review question / Objective: **To evaluate the correlation between serum adiponectin and Non-alcoholic fatty liver disease (NAFLD) based on Spearman and Pearson correlation coefficients.**

Condition being studied: **Association Between Serum Adiponectin And Non-alcoholic Fatty Liver Disease. RevMan 5.4**

software was used for statistical analysis.Two investigators independently evaluated the risk of bias in the included studies and cross-checked the results.

METHODS

Search strategy: #1 "Non-alcoholic Fatty Liver Disease"[Mesh]
#2 (Non alcoholic Fatty Liver Disease[Title/Abstract]) OR (NAFLD[Title/Abstract])) OR (Nonalcoholic Fatty Liver Disease[Title/Abstract])) OR (Fatty Liver, Nonalcoholic[Title/Abstract])) OR (Fatty Livers, Nonalcoholic[Title/Abstract])) OR (Liver, Nonalcoholic Fatty[Title/Abstract])) OR (Livers, Nonalcoholic Fatty[Title/Abstract])) OR (Nonalcoholic Fatty Liver[Title/Abstract])) OR (Nonalcoholic Fatty Livers[Title/Abstract])) OR (Nonalcoholic Steatohepatitis[Title/Abstract])) OR (Nonalcoholic Steatohepatitides[Title/Abstract])) OR (Steatohepatitides, Nonalcoholic[Title/Abstract])) OR (Steatohepatitis, Nonalcoholic[Title/Abstract])
#3 #1 AND #2
#4 "Adiponectin"[Mesh]
#5 (Adipocyte Complement-Related Protein 30-kDa[Title/Abstract]) OR (Adipocyte Complement Related Protein 30 kDa[Title/Abstract])) OR (Adipose Most Abundant Gene Transcript 1[Title/Abstract])) OR (apM-1 Protein[Title/Abstract])) OR (apM 1 Protein[Title/Abstract])) OR (ACRP30 Protein[Title/Abstract])) OR (Adipocyte, C1q[Title/Abstract] AND Collagen Domain Containing Protein[Title/Abstract])
#6 #4 AND #5
#7 #3 AND #6.

Participant or population: Patients with nonalcoholic fatty liver disease.

Intervention: Serum Adiponectin.

Comparator: No intervention, or any other intervention.

Study designs to be included: Case-control study and cohort study.

Eligibility criteria: diagnostic criteria for non-alcoholic fatty liver disease.

Information sources: Relevant articles from PubMed, Embase, The Cochrane Library, CNKI, Wanfang and VIP were screened.Studies were published between the database was set up and March 23, 2022.

Main outcome(s): Data from 3717 participants across 36 studies were included in the meta-analysis. Meta-analysis showed that serum adiponectin was negatively correlated with body mass index, total cholesterol, triglyceride, alanine aminotransferase, fasting blood glucose, waist-to-hip ratio, fasting insulin, and insulin resistance index.There was no correlation with high-density lipoprotein cholesterol, low-density lipoprotein cholesterol and glutamic oxalacetic transaminase.

Quality assessment / Risk of bias analysis: Two investigators independently evaluated the risk of bias in the included studies and cross-checked the results. The Newcastle Ottawa Scale (NOS) was used to evaluate the risk of bias in case-control and cohort studies. The NOS scale consisted of 8 items with a full score of 9.

Strategy of data synthesis: RevMan 5.4 software was used for statistical analysis.If there was good interstudy homogeneity ($P \geq 0.1$, $I2 \leq 50\%$), a fixed-effect model was used.If there was strong heterogeneity between studies (P 50%), the random-effects model was used for subgroup analysis.The potential for publication bias was explored by a funnel plot and Egger regression test.

Subgroup analysis: Subgroup analysis was performed on year, sample size, source, region (China), co-morbidity, and age.

Sensitivity analysis: We will use sensitivity analyses to investigate the robustness of main decisions made during the review process to evaluate the stability of our results.

Country(ies) involved: China.

Keywords: adiponectin, NAFLD, Spearman, Pearson, meta-analysis.

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Author 2 - Li jiajun.
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Author 4 - Wu shujing.